

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1 (Previously Presented; Allowed): An isolated nucleic acid encoding
UDP-N-acetylglucosamine: galactose- β 1,3-N-acetylgalactosamine- α -R /
N-acetylglucosamine- β 1,3-N-acetylgalactosamine- α -R β 1,6-N-acetylglucosaminyltransferase
(C2/4GnT) having the amino acid sequence SEQ ID NO: 2 or an enzymatically active
fragment thereof.

Claim 2 (Original; Allowed): An isolated nucleic acid as defined in claim 1, wherein said nucleic acid is DNA.

Claim 3 (Original; Allowed): An isolated nucleic acid as defined in claim 2, wherein said DNA is cDNA.

Claim 4 (Original; Allowed): An isolated nucleic acid as defined in claim 2, wherein said DNA is genomic DNA.

Claim 5 (Previously Presented; Allowed): An isolated nucleic acid encoding UDP-N-acetylglucosamine: galactose- β 1,3-N-acetylgalactosamine- α -R/N-acetylglucosamine- β 1,3-N-acetylgalactosamine- α -R β 1,6-N-acetylglucosaminyl-transferase (C2/4GnT), wherein said nucleic acid comprises the sequence of nucleotides 1-2319 in SEQ ID NO:1 or sequence-conservative variants thereof.

Claims 6-7 (Cancelled)

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Claim 8 (Previously Presented; Allowed): A nucleic acid vector comprising the nucleic acid of claim 1.

Claim 9 (Previously Presented; Allowed): A vector as defined in claim 8, wherein said nucleic acid comprises the nucleotide sequence of nucleotides 1-2319 in SEQ ID NO:1 or sequence-conservative variants thereof.

Claim 10 (Original; Allowed): A vector as defined in claim 9, wherein said sequence encoding C2/4GnT is operably linked to a transcriptional regulatory element.

Claim 11 (Original; Allowed): A cell comprising a vector as defined in claim 8.

Claim 12 (Original; Allowed): A cell comprising a vector as defined in claim 10.

Claim 13 (Original; Allowed): A cell as defined in claim 12, wherein said cell is stably transfected with said vector.

Claim 14 (Original; Allowed): A cell as defined in claim 11, wherein said cell produces enzymatically active C2/4GnT.

Claim 15 (Original; Allowed): A cell as defined in claim 11, wherein said cell is selected from the group consisting of bacterial, yeast, insect, avian, and mammalian cells.

Claim 16 (Original; Allowed): A cell as defined in claim 14, wherein said cell is selected from the group consisting of bacterial, yeast, insect, avian, and mammalian cells.

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of a fragment of a nucleotide sequence selected from the group consisting of nucleotides 1-245, nucleotides 246-435, and nucleotides 436-2319 of SEQ ID NO: 1; and

(ii) comparing the sequence of ~~said region~~ of the amplified segment with said subsequence of SEQ ID NO: 1 and identifying the differences between the sequence of said ~~region~~ segment and said subsequence of SEQ ID NO:1.

Claim 25 (Previously Presented; Allowed): A nucleic acid vector comprising the nucleic acid of claim 22.

Claim 26 (Previously Presented; Allowed): A nucleic acid vector comprising the nucleic acid of claim 23.

Claim 27 (Currently Amended): A method for producing C2/4GnT polypeptides, which comprises:

(i) introducing into a host cell the isolated nucleic acid of claim 23 or the nucleic acid vector of claim 26;

(ii) growing the host cell under conditions suitable for ~~human~~ C2/4GnT expression; and

(iii) isolating C2/4GnT produced by the host cell.

Claim 28 (Previously Presented; Allowed): A cell comprising a vector as defined in claim 25.

Claim 29 (Previously Presented; Allowed): A cell comprising a vector as defined in claim 26.

Claim 30 (Cancelled)

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